

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>303810W0/PRS</b>	<div style="display: flex; justify-content: space-between;"> <div>FOR FURTHER ACTION</div> <div>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</div> </div>	
International application No. <b>PCT/IB 2004/004356</b>	International filing date (day/month/year) <b>16 December 2004</b>	(Earliest) Priority Date (day/month/year) <b>19 December 2003</b>
Applicant <b>Nokia Corporation et al</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (see Box No. II)

3. ☐ Unity of invention is lacking (see Box No. III)

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 4

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 2004/004356

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04M 1/23, H01H 25/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H01H, H04B, H04M, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6441753 B1 (MONTGOMERY, D.D.), 27 August 2002 (27.08.2002), figure 12, abstract	1-8,14
Y	--	9-13,16-17
X	US 20030018397 A1 (CHANU, F.), 23 January 2003 (23.01.2003), figure 2, abstract	1-8,14
Y	--	9-13,16-17
X	WO 0034965 A2 (BADARNEH, Z.), 15 June 2000 (15.06.2000), page 39, line 12 - page 40, line 17, figures 134-138	15
Y	--	9-13,16-17

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

12 May 2005

Date of mailing of the international search report

12-05-2005

Name and mailing address of the ISA/  
Swedish Patent Office  
Box 5055, S-102 42 STOCKHOLM  
Facsimile No. +46 8 666 02 86

Authorized officer

Roland Landström /OGU  
Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 2004/004356

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 20020190727 A1 (MORIMOTO, H.), 19 December 2002 (19.12.2002), figures 1-31, abstract  -- -----	17

## INTERNATIONAL SEARCH REPORT

Information on patent family members

01/04/2005

International application No.

PCT/IB 2004/004356

US	6441753	B1	27/08/2002	AU	2711802	A	06/05/2002
				WO	0235513	A,B	02/05/2002
US	20030018397	A1	23/01/2003	CN	1395267	A	05/02/2003
				EP	1271276	A	02/01/2003
				JP	2003115240	A	18/04/2003
WO	0034965	A2	15/06/2000	AU	767597	B	20/11/2003
				AU	1587400	A	26/06/2000
				BR	9916038	A	11/09/2001
				CA	2354012	A	15/06/2000
				CN	1336037	A,T	13/02/2002
				EP	1141983	A	10/10/2001
				JP	2002532824	T	02/10/2002
				NO	985770	D	00/00/0000
				NO	993598	A	13/06/2000
				NO	994723	A	13/06/2000
				NO	20012850	A	07/08/2001
				NZ	512231	A	29/04/2003
				PL	349069	A	01/07/2002
				US	6809661	B	26/10/2004
				ZA	200104129	A	21/06/2002
US	20020190727	A1	19/12/2002	CN	1459021	A,T	26/11/2003
				EP	1378737	A	07/01/2004
				US	6842015	B	11/01/2005
				WO	02073148	A	19/09/2002

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

Page White & Farrer  
54 Doughty Street  
London WC1N 2LS  
United Kingdom

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year)

12-05-2005

Applicant's or agent's file reference

303810WO/PRS

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

PCT/IB 2004/004356

International filing date (day/month/year)

16.12.2004

Priority date (day/month/year)

19.12.2003

International Patent Classification (IPC) or both national classification and IPC

H04M 1/23, H01H 25/00

Applicant

Nokia Corporation et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/SE  
Patent- och registreringsverket  
Box 5055  
S-102 42 STOCKHOLM

Facsimile No. +46 8 667 72 88

Authorized officer

Roland Landström /OGU

Telephone No. +46 8 782 25 00

Form PCT/ISA/237 (cover sheet) (January 2004)

**BEST AVAILABLE COPY**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/IB 2004/004356

**Box No. I**      **Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language, \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/IB 2004/004356

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	9 - 13, 16 - 17	YES
	Claims	1 - 8, 14 - 15	NO
Inventive step (IS)	Claims		YES
	Claims	1 - 17	NO
Industrial applicability (IA)	Claims	1 - 17	YES
	Claims		NO

2. Citations and explanations:

The purpose of the invention is unclear.

Reference is made to the following document/documents:

D1: US 6441753 B1

D2: US 20030018397 A1

D3: WO 0034965 A

D4: US 20020190727 A1

Documents D1 (figure 12, abstract) and D2 (figure 2, abstract) show dome switches arranged at the periphery of a circle or at the corners of a square.

Document D3 (page 39, line 12 - page 40, line 17, figures 134 - 138) shows a mobile telephone having an input apparatus including a button (421) located in the center of a ring shaped rotator wheel (422) having position sensors (445, 446). The wheel (422) has four push-down points (427 - 430) for operating switches thereat.

Document D4 (abstract, figures 1 - 31) discloses an input apparatus with a capacitive type sensor.

The invention claimed in claims 1 - 8 and 14 is at least essentially known from document D1 or D2. Therefore, the invention claimed in claims 1 - 8 and 14 lacks novelty and inventive step. Claims 1 - 8 and 14 fulfil the requirement of industrial applicability.

.../...

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V.

The invention claimed in claims 9 - 13 and 16 - 17 differs from what is known from document D3 essentially in that the button operates dome switches.

The technical problem is how to select the switches.

However, dome switches and their advantages are well known, see for example document D1 or D2. Therefore, it would be obvious to a person skilled in the art to choose these switches in the input apparatus of document D3 and thus arrive at an input apparatus/dome switch having all the essential features of claims 9 - 13 and 16 - 17. Furthermore, no unexpected technical effect is obtained. Therefore, the invention claimed in claims 9 - 13 and 16 - 17 is novel but lacks an inventive step. Claims 9 - 13 and 16 - 17 fulfil the requirement of industrial applicability.

The invention claimed in claim 15 is at least essentially known from document D3. Therefore, the invention claimed in claim 15 lacks novelty and inventive step. Claim 15 fulfils the requirement of industrial applicability.

To sum up, the invention claimed in claims 1 - 8 and 14 - 15 lacks novelty and inventive step and the invention claimed in claims 9 - 13 and 16 - 17 is novel but lacks an inventive step. All the claims fulfil the requirement of industrial applicability.



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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**Box No. VIII** Certain observations on the international application

The following observations on the clarity of the claims, description, and drawing or on the question whether the claim are fully supported by the description, are made:

The construction and function of the dome switch are not clearly defined in claim 1. Therefore, claim 1 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined.